

Reasoning Notes

Syllogism | Statements | Input-Output | Data Sufficiency

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Topics:

1. Syllogism
 2. Statement & Assumptions
 3. Input-Output
 4. Data Sufficiency
 5. MCQ Practice
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1. Syllogism

Syllogism involves logical deductions from two or more statements (premises). Use Venn diagrams to solve. Types of statements: All A are B, No A is B, Some A are B, Some A are not B.

Q. All cats are animals. All animals are living things. Conclusion?

Ans: All cats are living things (valid — universal positive)

Q. No dog is a cat. Some cats are animals. Conclusion?

Ans: Some animals are not dogs (valid)

Q. All A are B. No B is C. Conclusion?

Ans: No A is C (valid)

2. Statement & Assumptions

An assumption is something that is taken for granted. The assumption must not be stronger or weaker than the statement. It should be implicit, not explicit.

Q. Statement: "Carry umbrella when going out — weather forecast says rain." Implicit assumption?

Ans: The person believes weather forecasts are reliable

Q. What makes an assumption implicit?

Ans: It is not directly stated but is necessary for the argument to hold

3. Input-Output

A machine rearranges words/numbers in steps. Identify the pattern in each step and apply it to find the final output.

Q. Input: 5 3 8 1 9 2. Each step: arrange smallest number first. Step 1?

Ans: 1 5 3 8 9 2 → wait, re-read: Step 1 = 1 3 8 5 9 2... Identify exact rule from given steps in exam

Q. General tip for Input-Output?

Ans: Find what changes in each step — is it sorting? Swapping? Adding? Work backwards from last step if asked

4. Data Sufficiency

Determine if given data (Statement I and/or II) is sufficient to answer the question. Options: (A) Only I sufficient (B) Only II sufficient (C) Both together sufficient (D) Neither sufficient

Q. Approach for Data Sufficiency?

Ans: Try Statement I alone → if sufficient, answer is (A). Try Statement II alone → if sufficient, answer is (B). If both needed, answer is (C). If neither works, answer is (D).

5. MCQ Practice — Mixed Reasoning

Q. All pens are books. All books are pencils. Which is definitely true?

(a) All pens are pencils

- (b) All pencils are pens
- (c) Some pencils are books
- (d) All books are pens

Answer: (a) All pens are pencils

Q. Statements: Some cats are dogs. Some dogs are rats. Conclusion: Some cats are rats.

- (a) True
- (b) False
- (c) Uncertain
- (d) Cannot determine

Answer: (d) Cannot determine

Q. In which arrangement is the middle element always fixed?

- (a) Linear
- (b) Circular
- (c) Square
- (d) Triangular

Answer: (b) Circular

Q. If all roses are flowers and all flowers fade, then:

- (a) All roses fade
- (b) Some roses fade
- (c) Roses never fade
- (d) Cannot say

Answer: (a) All roses fade